

THE
NATURAL HISTORY
OF
BRITISH INSECTS;
EXPLAINING THEM
IN THEIR SEVERAL STATES,
WITH THE PERIODS OF THEIR TRANSFORMATIONS,
THEIR FOOD, OECONOMY, &c.
TOGETHER WITH THE
HISTORY OF SUCH MINUTE INSECTS
AS REQUIRE INVESTIGATION BY THE MICROSCOPE.
THE WHOLE ILLUSTRATED BY
COLOURED FIGURES,
DESIGNED AND EXECUTED FROM LIVING SPECIMENS.

By E. DONOVAN.

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MDCCXCIX.



THE
NATURAL HISTORY
OF
BRITISH INSECTS.

PLATE CCLIII.

PHALÆNA PAVONIA, *minor. fem.*

EMPEROR MOTH, *female.*

The male of this fine species of *Phalæna* has been given in the first Number of this Work, with a promise that the female should be added in a future Plate. The larva and pupa is represented with the male Insect; but we have also introduced other caterpillars of the same species with the annexed figure, to shew the different stages of their growth. When young they are yellowish: the tubercles black, with a stripe of the same on the segments of the joints. After this, the yellow bands become orange, and the transverse black stripes appear interrupted with longitudinal bands of pale green. Some are entirely green, except the tubercles, which are yellow, and a small black speck on each joint; and others are green, chequered with black, and marked on the side with a row of semilunar spots. In

the winged state, we find more permanent and characteristic distinctions.

Linnaeus, and after him Fabricius, describes three varieties of *Phalæna Pavonia*, α minor β media and γ major. The first is the species found in this country, and in the north of Europe. The existence of the second was formerly disputed by some naturalists; and the last is so extremely different, at least in point of magnitude, that we may almost venture to remove it entirely from the two preceding.

The difference between the male and female of the common Emperor Moth is strikingly obvious; the male is smaller than the female, and the colours in general darker; the posterior wings also are orange in the male, and not so in the female; and finally, the two sexes may be determined by the structure of the antennæ: those of the male being nearly oval, and very deeply feathered, or pectinated, and those of the female being also pectinated, but so slightly as to appear setaceous. As the structure of the antennæ is an unerring criterion by which the sexes are ascertained, the *Phalæna Pavonia media* is a phænomenon in Entomology, for both the male and female so perfectly resembles the *female Emperor Moth*, *P. P. media*, which we have figured, that it may be mistaken for the same species: the female differs in no respect from it; and the male only in the form of the antennæ. We have received this remarkable species from Italy and Germany. It is figured only by *Esper*, *Phal.* 3. *tab.* 3; and is thus described by Linnaeus and Fabricius, β media: “singularis ob fœminam mari simillimam.” The third, *P. Pavonia major*, can by no means be confounded with the preceding: our specimen of it is six inches in breadth, and is also very bulky: it is found in the *Pays de vaud*. Roessel has given a figure of both sexes with the larva and pupa. The winged Insect is of a dingy brown, the marks somewhat similar to those of the common kind. The larva is large, with the head small in proportion. The whole is of a citron green,
furnished

furnished with elevated tubercles, whose summits diverge into rays like a star, and are of an azure blue colour: it is also beset with a number of long filaments of threads, each of which terminate in a little capitulum similar to the antennæ of a Butterfly.



P L A T E CCLIV.

FIG. I. I.

PAPILIO PANISCUS.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings in general erect when at rest, Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, divaricated ; dark brown with fulvous spots.

HESPERIA PANISCUS : alis integerrimis divaricatis : posticis utrinque fuscis fulvo maculatis. *Fab. Ent. Syst. T. 3. p. 1. 328. 242.*

Papilio Brontes. *Wien. Verz. 160. 6.*

Papilio Palemon. *Pall. Itin. 1. App. Nr. 63.*

β Papilio Silvius. *Esp. pap. tab. 80. fig. 5. 6.*

P. Paniscus is described by Fabricius as a native of Germany, and has been lately added to the list of British Papiliones. In this country it seems a very local species. It is deemed a rare Insect by Entomologists.

F I G. II.

PAPILIO SYLVANUS.

LEPIDOPTERA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings divaricated, brown, with square spots, that appear yellow on the upper surface, whitish beneath.

HESPERIA SYLVANUS: alis divaricatis fuscis: maculis quadratis supra flavis subtis albis. *Fab. Ent. Syst. T. 3. p. 1. 326. 237.*

Fabricius has no reference to any author for a figure of this species, nor is it described by Linnæus: this is the more remarkable, as the species is found in great abundance in the months of May and June in this country, and is not uncommon in Sweden and Germany.



P L A T E C C L V .

F I G I .

S C A R A B Æ U S N U T A N S .

G E N E R I C C H A R A C T E R .

Antennæ terminate in a kind of club ; which is longitudinally divided into lamina, two, three, or seven in number. Second joint of the anterior, or foremost legs, armed with spines.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S .

Black ; without scutellum ; anterior part of the thorax impressed or hollow. Back of the head terminates in an erect spine, bent at the apex.

S C A R A B Æ U S N U T A N S : exscutellatus thorace antice impresso, occipite spina erecta apice nutante, corpore nigro. *Fab. Ent. Syst. T. 1. p. 59. 194.*

Scarabæus nutans. *Oliv. Inf. 1. 3. 145. 176. tab. 21. fig. 188.*

A local species. It is seldom found in this country. Fabricius notes it as a Saxon Insect.

F I G .

F I G. II.

SCARABÆUS NUCHICORNIS.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax roundish. Back of the head armed with an erect spine.

SCARABÆUS NUCHICORNIS: thorace rotundato, occipite spina erecta armato. *Linn. Syst. Nat.*

SCARABÆUS NUCHICORNIS: exscutellatus, thorace rotundato mutico, occipite spina erecta armato, clypeo marginato. *Fab. Ent. Syst. T. 1. 192. p. 58.*

Not uncommon in several places near London.



1



P L A T E CCLVI.

BUPRESTIS MINUTA.

MINUTE BUPRESTIS, or COW BURNER.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ setaceous, length of the thorax. Head half retracted within the thorax.

SPECIFIC CHARACTER

AND

S Y N O N Y M S.

Ovated. Wing-cases bronged, rugged, and transversely undulated with streaks of fine whitish hairs.

BUPRESTIS MINUTA : elytris integris transverse rugosis, thorace subtrilobo lævi, corpore ovato nigro. *Linn. Syst. Nat.* 2. 663. 24.—*Fn. Sv.* 760.—*Fab. Ent. Syst.* 1. p. 2. 212. *sp.* III.

Cucujus fusco cupreus triangularis : fasciis undulatis villosis albidis. *Geoff. Inf.* 1. 128. 6.

The natural size is represented at figure 1.

This pretty species is found on the nut tree in May and June.



P L A T E CCLVII.

PHALÆNA VERBASCI.

WATER BETONY MOTH.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general reflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax crested. Wings deflexed, margins deeply serrated. A dark brown streak along the posterior edge of the first wings.

PHALÆNA VERBASCI: cristata alis deflexis dentato erosis: margine laterali fusco immaculato. *Linn. Syst. Nat.* 2. 850. *Fn. Sv.* 118.

Fab. Ent. Syst. Nat. T. 3. p. 2. 120. *Sp.* 363.

Wien. Verz. 73. 8.

Raj. Inf. 168. 25.

Gezffr. Inf. 2. 158. 96.

Sulz. Hist. Inf. tab. 22. fig. 7.

Reaum. Inf. 1. tab. 43. fig. 9. 11.

Frisch. Inf. 6. tab. 9.

Merian. Europ. 3. tab. 29.

The Water Betony Moth is a very abundant species; the larva feeds on the Moth Mullien, or Water Betony plant, as its name implies. It is in the larva state in July, becomes a pupa, and the fly is produced in April.



P L A T E CCLVIII.

PAPILIO GALATHEA.

MARBLE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, chequered with black and white, in irregular spots and lines. Beneath, one eye-spot on the anterior wings, and five on the posterior ones.

PAPILIO GALATHEA: alis dentatis albo nigroque variis: subtus anticis ocello unico, posticis quinque. *Linn. Syst. Nat.* 2. 772. 147.

Fab. Ent. Syst. T. 3. p. 1. 239. 745.

Schæff. Icon. tab. 98. fig. 7, 8, 9.

Roef. Inf. 3. tab. 37. fig. 1. 2.

Esf. pap. 1. tab. 7. fig. 3.—*Tab.* 25. fig. 1.

Ernst. Inf. Europ. 1. tab. 30.

Petiv. Mus. 4. 3. tab. 1. fig. 1.

This

This Insect is very common in the fly state in the month of June. It frequents meadows, and is supposed to feed on grafs in the larva state. The larva is very seldom met with. It is thus described by some authors: *Larva* depressed, or flattish, of a yellowish colour, marked with an obscure line down the back and sides. The *Pupa* blue, with a red tail *.

The light colour in the wings varies in different insects, some being almost white, and others pale yellow.

* *Naturf.* 14. *tab.* 2. *fig* 1.—*Fab. Ent. Syst.* &c.



P L A T E CCLIX.

P A P I L I O S E M E L E .

BLACK-EYED MARBLED BUTTERFLY.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R .

Antennæ clubbed at the end. Wings erect, when at rest. Fly by day.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S .

Wings dentated, dark brown, with fulvous spots next to the exterior margin. Two black rings, or eyes, on the anterior, and one on the posterior wings.

PAPILIO SEMELE, alis dentatis: fascia maculari fulva ocellisque duobus: anticis subtus disco baseos. *Linn. Syst. Nat.* 2. 772. 148.—*Fn. Sv.* 1051.

Fab. Ent. Syst. T. 3. p. 1. 232. 725.

Esp. pap. 1. tab. 8. fig. 1.

Schæff. Icon. tab. 207. fig. 3, 4.

Sulz. Hist. Inf. tab. 17. fig. 5, 6.

This species lives chiefly in the woods. It appears in the winged state in July. The larva is not clearly ascertained by any author.



P L A T E CCLX.

PAPILIO ATALANTA.

RED ADMIRABLE BUTTERFLY.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated, black with white spots. A red stripe across the anterior wings, and another along the posterior margin of the lower wings.

PAPILIO ATALANTA: alis dentatis nigris albo maculatis: fascia communi purpurea anticarum utrinque posticarum marginali. *Linn. Syst. Nat.* 2. 779. 175.—*Fn. Sv.* 1060.—*Fab. Ent. Syst. T.* 3. p. 1. 118. 362.

Albin. Inf. 3. fig. 4.

Degeer Inf. 1. tab. 22. fig. 5.

Roef. Inf. 1. pap. 1. tab. 6.

Sepp. Inf. 1. tab. 1.

Schæff. Icon. tab. 148. fig. 1, 2.

Ernst. Inf. Europ. 1. tab. 6.

Geoff. Inf. 2. 40. 6.

Ammer Inf. tab. 24.

The

The red admirable Butterfly is certainly a very common species, but as one of the most beautiful this country can boast of, is entitled to our particular consideration.

The Caterpillars are of several kinds, according to the different stages of growth. In the last skin they are green, with a yellow stripe on each side of the belly, and beset with curiously ramified, or branching spines: sometimes they are black, with a yellow belly, or black, variegated with red, brown, and yellow. The Chrysalis is of a dark colour, ornamented with several spots of shining gold. The Caterpillars are found on the nettle in June and July: it remains in Chrysalis twenty-one days, and the Butterfly appears in August. There are two broods of this species in general every season.



P L A T E CCLXI.

F I G. I. I.

HIPPOBOSCA EQUINA.

HORSE, OR SPIDER FLY.

DIPTERA.

GENERIC CHARACTER.

Rostrum bivalve, cylindrical, obtuse and wavering. Antennæ short, setaceous. Without stemmata. Feet armed with many nails or crotchets.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuse. Thorax variegated. Feet armed with three crotchets.

HIPPOBOSCA EQUINA, alis obtusis, thorace albo variegato, pedibus tetradactylis. *Linn. Syst. Nat.* 2. 1010. 1. *Fn. Sv.* 1921.—*Fab. Ent. Syst. Vol.* 4. p. 415. 1.
Degeer. Inf. 6. 257. 1. *tab.* 16. *fig.* 1.
Reaum. Inf. 2. *tab.* 179. *fig.* 8, 9.

Few species of Hippoboscæ have hitherto been discovered. Four kinds were known to Linnæus, and Fabricius has not encreased
C that

that number in either of his Entomological Systems. A fifth species is described by Gmelin in the last edition of the *Systema Naturæ*, under the name of *Uralensis**. The species in the *Entomologia Systematica* of Fabricius, are *Equina*, *Avicularia*, *Hirundinis*, and *Lo-vina*. The first is rather larger than the others, and is well known by the common name of Horse Fly, because it frequently molests those animals, and attaching itself to their bodies, penetrates the skin, and sucks their blood. The three other species are also natives of this country, and like the *H. equina*, subsists on the blood of certain animals. The *H. avicularia* is found chiefly on the bodies of birds, and *H. hirundinis* more especially on swallows. These creatures are all of a disgusting form, flat, and hard: they adhere very tenaciously by means of the nails or crotchets of their talons, which in this genus are numerous; and are not easily killed by pressure. The *H. equina* has three sharp incurvated nails to each foot, the *H. hirundinis* is furnished with twice that number on each.

FIG. II.

HIPPOBOSCA AVICULARIA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings obtuse. Thorax without spots, and of one colour.

* *Hippobosca uralensis*: atra hirsuta dorso ordinibus tribus vesicularum albarum nitentium. Lepechin it. 1. t. 19. f. 9. *habitat in deserto Uralensi*.

HIPPOBOSCA AVICULARIA, alis obtusis, thorace unicolore. *Linn. Syst. Nat.* 2. 1010. 2.—*Fn. Sv.* 1922.—*Fab. Ent. Syst.* 4. p. 415. 2.

The figure of *Hippobosca avicularia* in the works of Sulzer nearly agrees with our insect, except in colour; it is of a dull brown, with legs of the green cast.



P L A T E CCLXII.

F I G. I. I.

P H A L Æ N A A T R I P L I C I S.

WILD ARRACH MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base, wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Thorax crested, anterior wings, brown, clouded and marked with undulated streaks, and a two-cleft or forked yellow mark in the middle.

P H A L Æ N A A T R I P L I C I S, cristata alis deflexis: anticis fusco nebulosis; litura media flava bifida. *Lin. Syst. Nat.* 2. 854. 173. *Fab. Ent. Syst. T.* 3. p. 95. sp. 282.
Roef. Inf. 1. phal. 2. tab. 31.

This species is noticed by Harris and Berkenhout, as a native of Great Britain, under the trivial name of *Wild arrach Moth*; we have ever considered it a local species. It is found in Cambridgeshire,

the Caterpillar in August, the Fly in September. The wild orach and common dock are its favourite food.

F I G. II. II.

P H A L Æ N A U M B R A T I C A.

SHARK MOTH.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Thorax crested. Wings deflexed, lanceolated, greyish, striated longitudinally with pale black. A faint reddish dash in the middle, marked with two black spots.

P H A L Æ N A U M B R A T I C A : cristata alis deflexis striatis lanceolatis canis: macula centrali ferruginea; punctis duobus nigris. *Linn. Syst. Nat.* 849. 150. *Fn. Sv.* 1184.—
Fab. Ent. Syst. T. 3. p. 122. 368.

Noctua lucifuga. *Wien. Verz.* 312. 11?
Rocf. Inf. 1. phal. 2. tab. 25.

The larva of *Phalæna Umbratica* is sometimes of a dirty brown, with spots of clay colour; it feeds on the sow thistle; changes into the Chrysalis state in May, and the Flies appear in June.



P L A T E CCLXIII.

F I G. I.

P H A L Æ N A P I N E T E L L A.

PEARL VENEER MOTH.

GENERIC CHARACTER.

Antennæ, taper from the base. Wings in general deflexed, when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings yellowish brown, with two large whitish, or pearl-like spots on each.

TINEA PINETELLA : alis anticis flavis : maculis duabus albissimis, anteriore oblonga, posteriore ovata. *Linn. Syst. Nat.* 2. 886. 356.—*Fn. Sv.* 1368. *Fab. Ent. Syst. T.* 3. p. 2. 294. *Clerk. phal. tab.* 4. fig. 7. *Panz. Faun. Germ.* 6. tab. 22. *Wien Verz.* 134. 7.

We met with a specimen of this beautiful little Moth, in June 1798, in Norwood. It is certainly a rare and interesting British species;

species; though long since known to collectors of Insects by the trivial English name above adopted. It may not be improper to add, that this specimen was found in a willow tree, as those continental Authors who have noticed it, say it inhabits pine trees.

FIG. II.

PHALÆNA COLONELLA.

SPECIFIC CHARACTER

AND

SYNONYMS.

First wings oblong, greyish, with two black spots in the centre. A faint undulated bar across the interior, and another near the exterior part of each wing.

TINEA COLONELLA: alis oblongis cinereis: punctis duabus atris ante strigam curvam undulatam obsoletam. *Linn. Syst. Nat.* 2. 883. 346. *Fn. Sv.* 1358.—*Fab. Ent. Syst. T.* 3. p. 2. p. 288. 5.

Found on the alder in July.—*Combe wood, Surrey.*



P L A T E CCLXIV.

FIG I.

LUCANUS PARALELEPIPEDUS.

SMALL BLACK STAG BEETLE.

GENERIC CHARACTER.

Antennæ terminate in a club or knob compressed on one side, and divided into laminæ or teeth. Maxillæ or jaws, strong, projected before the head, and armed with teeth.

SPECIFIC CHARACTER

AND

SYNONYMS.

Black : body depressed. Maxillæ furnished with a large elevated tooth on the interior side.

LUCANUS PARALELEPIPEDUS: mandibulis dente laterali elevato, corpore depresso. *Linn. Syst. Nat.* 2. 561. 6. *Fab. Ent. Syst. T.* 1. p. 2. 239. 11.

Platycerus niger, elytris lævibus, capitis puncto duplici prominente. *Geoff. Inf.* 1. 62. 3.

Degeer. Inf. 4. tab. 12. fig. 9.

Schæff. Icon. tab. 63. fig. 7.)

— *Elem. tab.* 101. fig. 1.

Three species of Lucani are found in this country. The largest is *Lucanus Cervus*, of which a figure has been given in the early part of this Work. The present species and *L. caraboides* complete the list of British Lucani.

The first kind is known to live in the larva state in decayed wood, and it is supposed the same habits of life belong to others of this tribe. *Lucanus Paralelepipedus* ranks amongst the rarest Coleopterous insects of this country; in Denmark and Germany it is not uncommon.

FIG. II.

SCARABÆUS MELOLONTHA.

TREE BEETLE, or COCKCHAFER.

GENERIC CHARACTER.

Antennæ terminate in a kind of club, which is longitudinally divided into laminæ. Second joint of the anterior legs, armed with spines.

SPECIFIC CHARACTER

AND

SYNONYMS.

Furnished with scutellum. Brown. Thorax hairy. Tail bent or inflected, a triangular white spot at each incisure of the abdomen.

SCARABÆUS MELOLONTHA: scutellatus muticus testaceus, thorace villosa, cauda inflexa, incisuris abdominis albis. *Linn. Syst. Nat.* 2. 554. 60.—*Fn. Sv.* 392.

Melolontha

Melolontha vulgaris. *Roef. Inf.* 2. *Scarab.* 1. *tab.* 1.

Melolontha vulgaris. *Fab. Spéc. Inf.* 1. *p.* 35. 3.—*Syst. Ent. T.* 1.
p. 2. *p.* 155. 3.

Degeer. Inf. 4. *tab.* 10. *fig.* 14:

Voet. Scarab. tab. 6. *fig.* 45. 46.

The Cockchafer is found in the greatest abundance throughout Europe, and in some countries are infinitely more detrimental to agriculture than in England. In the larva state, it lies buried beneath the surface of the earth, where it does incredible mischief by devouring the roots of plants. After remaining three years in the larva state it becomes a winged Insect, and leaving its subterraneous habitation, is not less detrimental to the corn and other kinds of grain, and also to trees; particularly the Oak. In some seasons, when they are numerous, we find the Oak stripped of its leaves, and otherwise much injured by these voracious animals. About noon the Cockchafers collect in considerable multitudes among the leaves of the lower boughs of the Oak, when they may be easily taken, by shaking or beating them into baskets, &c.

Several varieties of this species are mentioned by authors; particularly one with a red thorax, by Roefel.

FIG. III.

SCARABÆUS STERCORARIUS.

COMMON DOR, or CLOCK BEETLE.

* Both thorax and head without spines.

SPECIFIC

S P E C I F I C C H A R A C T E R.

Furnished with scutellum. Black: clypeus rhombic with a small elevation or protuberance in the middle. Wing cases furrowed.

SCARABÆUS STERCORARIUS: scutellatus muticus ater, clypeo rhombeo, vertice prominulo, elytris fulcatis. *Linn.*

Syst. Nat. 2. 551. 42.

Fn. Sv. 388.

Fab. Syst. Ent. 17. 60.

Spec. Inf. 1. p. 18. 74.

Schæff. Icon. tab. 23. fig. 9.

Like the preceding species, this Beetle lives in the larva state in the earth. The Winged Insect is found in the dung of animals, carrion, &c. Few insects are found more numerous or general throughout Europe than this. The colour is black, with very vivid glosses of shining blue, green, and purple, in different specimens; and we have a variety of it from the south of Europe that is entirely of a dull reddish colour.



P L A T E CCLXV.

P H A L Æ N A I O T A.

GOLDEN *i* MOTH.

LEPIDOPTERA.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Thorax crested. Anterior wings ferruginous red, variously shaded, and marked in the centre with an inverted golden *i*.

P H A L Æ N A I O T A : cristata alis deflexis, anticis ferrugineo griseis I refupinato aureo inscriptis. *Fab. Syst. Ent.* 608. 76.
—*Sp. Inf. T.* 2. p. 228. 98.—*Ent. Syst. T.* 3. p. 81.
Sp. 237.

P H A L Æ N A I O T A : alis primoribus ferrugineo-griseis, I refupinato aureo inscriptis. *Gmel. Syst. Nat.*—*Ent. p.* 2557. 130.
Roef. Inf. I. phal. 3. tab. 5.

Linnæus very accurately described this Insect under the specific name *Iota* in the early edition of the *Systema Naturæ*. It is given as a native of Germany, and without a reference to any figure. Fabricius has followed the same description throughout all his works,
without

without noticing any figure of it also, until the *Entomologia Systematica* appeared, when a reference is given to *tab. 5. Phal. 3. Vol. I.* of Roefel's *Insects*. This is however erroneous, for Linnæus includes that reference among the Synonyms of his *Phalæna Gamma*, and Gmelin, his latest editor, continues the same amongst the Synonyms of *Gamma* likewise. Kleman, who revised the last edition of Roefel's work, is decidedly of opinion, that the figure is that of *Gamma*, and assigns the Linnæan specific name to it accordingly. Whatever reason influenced the opinion of Fabricius, that the figure in question was the true *Phalæna Iota* of Linnæus, when that author himself says otherwise, is not mentioned by Fabricius, and is by no means clear to us; but one circumstance cannot escape observation: Fabricius has in no instance referred to the figure in Roefel's plate before the publication of his last work, though all the other Synonyms of *Phalæna Gamma* are the same in every edition of the Fabrician systems as in those of his predecessor, Linnæus.

This Insect is very beautiful, and much rarer than the following species. It is found on the common, and white dead nettles, or archangel. The larva has twelve feet; is without hairs, green; and spotted with white. The Moth appears in June.

FIG. II.

PHALÆNA GAMMA.

COMMON γ MOTH.

SPECIFIC CHARACTER.

AND

SYNONYMS.

Thorax crested. Anterior wings brown, with a golden γ inscribed in the centre.

PHALÆNA

PHALÆNA GAMMA: cristata alis deflexis dentatis: anticis fuscis γ aureo inscriptis. *Linn. Syst. Nat.* 2. 843. p. 127.

Fab. Ent. Syst. T. 3. p. 79. sp. 228.

PHALÆNA GAMMA: alis primoribus fuscis γ aureo inscriptis
Gmel. Linn. Syst. Nat.—Ent. 2555. sp. 127.

Geoff. Inf. 2. 156. 92.

Goed. Inf. 2. t. 21.

Rag. Inf. p. 163. n. 16.

Petiv. Gazoph. 4. 6.

Schæff. Icon. tab. 84. fig. 5.

Frisch. Inf. 5. 15.

Reaum. Inf. 2. tab. 26. fig. 5.

Albin. Inf. tab. 79. fig. G. H.

Sepp. Inf. 5. tab. 1. 61.

Phalæna Gamma is one of those species which feed indifferently on many kinds of plant. It is often found amongst nettles and other low herbage, or in gardens amongst cabbages, &c. It is of a green colour, with pale or whitish longitudinal stripes on the back, and the sides yellow. The Moth is found in August and September.



P L A T E CCLXVI.

F I G. I, II.

P H A L Æ N A L E M N A T A

S M A L L W H I T E C H I N A M A R K M O T H.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ fetaceous. Wings snowy white. A black streak next the posterior margin of the lower pair, marked with four white spots.

P H A L Æ N A L E M N A T A : feticornis alis niveis: posticis fascia terminali nigra; punctis quatuor albis. *Lynn. Syst. Nat.* 2. 874. 278.—*Fn. Sv.* 1301.—*Fab. Ent. Syst. T.* 3. p. 2. p. 215. *fp.* 319.

Raj. Inf. 205. 102.

Reaum. Inf. 2. tab. 12. fig. 14, 15.



Linnæus and Fabricius describe only the male of this species; the female is rather larger, the colour pale brown, with markings
D similar

similar to those of the other sex, but of a reddish colour. The characteristic black line, with white spots on the posterior wing, is the same as in the male Insect.

This Moth derives its specific name, *Lemnata*, from the food of its Caterpillar, or larva, which is usually some species of *lemna*, (duckweed) or other aquatic plant. In the winged state it is a very common Insect, particularly in marshy ground, and the sides of ponds and ditches. In general we find two broods of them in the summer; the first appears in May, the second in July or August.

FIG. III.

PHALÆNA DECUSSATA.

PRETTY WIDOW MOTH.

GEOMETRA.

SPECIFIC CHARACTER.

Antennæ fetaceous. Wings cinereous, with four black streaks: the two middle ones of a serpentine form, and crossing each other. Several undulated dotted black lines.

PHALÆNA DECUSSATA: felicornis, alis cinereis; strigis quatuor, mediis decussatim flexuosis, lineolis undulatis atomisque nigris.

A rare and new species. It has been taken at Faversham by Mr. Crewe, and trivially named the Pretty Widow Moth.

FIG.

F I G. IV.

P H A L Æ N A A T R A L I S.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Wings black, with two white spots on each.

P H A L Æ N A A T R A L I S: alis atris: maculis duabus niveis. *Linn.*

Mant. 540.—*Fab. Syst. Ent. T.* 3. p. 2. 241. *sp.* 422.

Phalæna funera. *Myll. Zool. Dan.* 132. 1524.

Phalæna guttalis. *Wien. Verz.* 124. 45.

Phalæna funebris. *Æt. Nidrof.* 4. tab. 16. *fig.* 17.

Taken in June, on Epping Forest.



P L A T E CCLXVII.

F I G. I. II.

P H A L Æ N A D E G E E R E L L A.

L O N G H O R N J A P A N N E D M O T H.

L E P I D O P T E R A.

G E N E R I C C H A R A C T E R.

Antennæ, taper from the base. Wings in general deflexed, when at rest. Fly by night.

T I N E A.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Black, bronzed, or changeable to gold. A yellow indented band across the anterior wings. Antennæ very long.

P H A L Æ N A D E G E E R E L L A : alis atro aureis : fascia flava, antennis longis. *Linn. Syst. Nat.* 2. 895. 426.—*Fn. Sv.* 1393.

A L U C I T A D E G E E R E L L A. *Fab. Ent. Syst. T.* 3. p. 2. p. 341. 40.

The two sexes of this beautiful and extraordinary little Insect has been described as two distinct species. They differ principally in the form and size of the antennæ ; in the female these are entirely setaceous, or like a fine hair, three times the length of the whole body : the antennæ in the male are shorter, and are thick in the middle, not very unlike those of some kinds of Sphinges. It is not uncommon in hedges in May and June.

E

F I G.

F I G. III. III.

P H A L Æ N A P O D A E L L A.

SCARCE JAPANNED MOTH.

LEPIDOPTERA.

TINEA.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ very long. Wings golden black. A narrow gold or yellow line of equal breadth across the anterior wings.

P H A L Æ N A P O D E L L A : antennis longissimis, alis nigro-æneis, anticis fasciâ equali angusta aurea.

P H A L Æ N A P O D E L L A : antennis mediocribus alis nigris fascia albida.
Linn. Syst. Nat. 896. 428.

Alucita Podaella. Fab. Ent. Syst. 3. p. 2. 341. n. 42.

Like the preceding species, the two sexes of *P H A L Æ N A Tinea P O D A E L L A* are distinguished by the different form of the antennæ; and Linnæus has evidently described only the male, or he would not have defined it—" *Antennis mediocribus*," for the antennæ of the female are remarkably long.

The

The reference made by Fabricius to *Geoff. Inf.* 2. 194. 32. for this Insect, is certainly erroneous; for the Insect therein described is stated to have a white band across the four wings, a white point near the exterior margin of the upper wings, and a small transverse white mark towards the base. Linnæus does not quote *Geoffroy* for this Insect; and it is evident, Fabricius has confined his reading to the Latin specific description, which certainly agrees with the Linnæan description of *Podælla* in the *Syst. Nat.*

The natural size and magnified appearance is shewn at Fig. III. III.

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P L A T E CCLXVIII.

F I G I.

HIPPOBOSCA HIRUNDINIS.

GENERIC CHARACTER.

Rostrum bivalve, wavering. Feet armed, with many nails.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings taper to a point from the base. Six claws on each foot.

HIPPOBOSCA HIRUNDINIS: alis subulatis, pedibus hexadactylis.
Linn. Syst. Nat. 2. 1010. 3. *Fn. Sv.* 1923.
Geoff. Inf. 2. 547. 2.—*Panz.-Faun. Inf. Germ.*

Found on the bodies and nests of swallows.

The smallest Figure denotes the natural size.

F I G. II.

HIPPOBOSCA OVINA.

APTEROUS.

SPECIFIC CHARACTER.

Without wings.

HIPPOBOSCA OVINA: alis nullis. *Linn. Syst. Nat.* 2. 1011. 4.
Fn. Sv. 1924.
Frisch. Inf. 5. tab. 18.

This is the fourth and last species of the Hippoboscæ found in Great Britain.



P L A T E CCLXIX.

SPHINX OCELLATA.

EYED HAWK MOTH.

GENERIC CHARACTER.

Antennæ thickest in the middle. Wings deflexed when at rest.
Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated. Posterior pair red, with a large blue eye in the middle of each.

SPHINX OCELLATA: alis angulatis, posticis rufis ocello coeruleo.

Fab. Syst. Ent. 536. 1.

SPHINX OCELLATA, alis repandis, posticis ocellatis. *Linn. Syst.*

Nat. 2. 796. 1.—*Fn. Sv.* 1083.

Phalæna alis inferioribus macula ophthalmoide insignibus. *Alb. Inf.*

tab. 8. *fig.* 2.

Drury Inf. 2. *tab.* 25. *fig.* 2. 3.

Rosf. Inf. phal. 1. *tab.* 1.

Schæff. Icon. tab. 99. *fig.* 5. 6.

Merian Europ. 2. *tab.* 87.

The Sphinges are only, in a few instances, remarkable for that gaiety and splendour of colours, which render the Butterfly tribe so

pleasing and interesting to general observers. There is, however, a peculiar grace and elegance of form throughout the Sphinges, which immediately distinguish them from the Phalænæ, or third tribe of Lepidopterous Insects; and their colours, though chaste or obscure, are, for the most part, very prettily diversified. The Sphinges of Great Britain are not numerous; and, in general, the more beautiful kinds are rare. The Sphinx Ocellata is certainly an exception to such remark, for we have not a finer or more abundant species of the tribe in this country. It is also no less common in other parts of Europe; and few authors, who have treated on the Entomology of any country in Europe, have neglected to give it a place in their works.

The larva of the Sphinx Ocellata is found on the willow, in May, June, and July, when it becomes a pupa, and remains in the earth till June following; and then comes forth in the perfect state.



P L A T E CCLXX.

GRYLLUS MIGRATORIUS.

MIGRATORY LOCUST.

GENERIC CHARACTER.

Head inflected, armed with jaws, and furnished with palpi. Wings wrapped round the sides of the body, and concealed under the elytra. Feet armed, with two nails. Posterior legs formed for leaping.

SPECIFIC CHARACTER

AND

SYNONYMS.

Thorax of one segment, and somewhat keeled, or rising in a longitudinal line, in the middle ; mandibles blue.

GRYLLUS MIGRATORIUS : thorace subcarinato : segmento unico, mandibulis cœruleis. *Linn. Syst. Nat.* 2. 700. 41.—
Fn. Sv. 871.

Roef. Inf. 2. *Gryll. tab.* 24.

Edw. birds. 208. *tab.* 208.

Degeer. Inf. 3. 446. 1. *tab.* 23. *fig.* 1.

Seb. Mus. 4. *tab.* 65. *fig.* 21.

The *Gryllus Migratorius*, or Migratory Locust, has always been classed amongst the Insects of this country on local authority. It certainly visited Great Britain in the year 1748, and several small flocks of them were seen in the environs of London, where they
caused

caused much consternation, according to the authors of that time. M. Edwards in particular, gave a figure, and a short account of it in his History of Birds, [Plate 208] under the name of Great Brown Locust. It is not certain that they have appeared, at least in considerable numbers in this country, since that period; and it is probable, if any specimens of them were then collected, they are now lost; for we have not hitherto been able to ascertain, precisely, an English specimen of it in any cabinet, and this consideration alone, has induced us to defer adding this remarkable creature to our illustration of British Insects.

In the month of September, 1799, LADY AYLESFORD most obligingly communicated a living specimen of it to us, and we deem ourselves particularly fortunate in the opportunity it affords us to ascertain the difference, however inconsiderable, between the variety found in England and those of warmer countries. It is represented in the annexed plate, both in a resting position and with the wings expanded. This specimen was found in a barley field near Packington in Warwickshire. It lived several days after its arrival in London, and would probably have survived much longer had it not been injured in the journey, and weakened by long confinement. We remarked, that in feeding, it cuts the stalk asunder in the middle, or near the root, and tearing off the leaves, eats only the pith; this may, in some measure, account for the great mischief and depredation these creatures commit, when they settle in vast numbers on any tract of cultivated land.

Though we regard the *Gryllus Migratorius* as an object of curiosity in this country, in many others they are the terror of the inhabitants. We are not, perhaps, to admit implicitly the relations of all authors, but in those of credibility and information, we find abundant reason to hope it may ever remain, as at present, a rare British species. It is said to be very numerous in Tartary, from whence at certain periods it migrates westward, and visits the south of Europe in incredible quantities. Of all the authors who have treated on the history of this Insect, none are more satisfactory than Roefel;
his

his observations are given in detail, but they are the result of useful information, and may be deemed a proper sequel to our concise account of it; when we consider that his observations relate to the same event and time, the legions of Locusts that appeared in this country, and throughout Europe in 1748.

* “ I have already,” says Roessel, “ given particulars of those dangerous guests in the beginning of the year 1749, and at the same time added figures of them †. I shall now only observe, that in the course of the same year, they not only appeared in Poland, Hungary, Austria, Bohemia, Silesia, Bavaria, but also in Franconia, and consequently in the environs of our city. Thanks be to God, they have not been numerous about our city, but from Windheim we have intelligence of the third of September, that they had frightened the inhabitants with their legions, but they departed again on the fourth; since then, a much respected patron has kindly sent me, the IMPERIAL AND ROYAL HUNGARIAN EDICT of the present year 1749, together with a printed description of the Insect, and proper instructions to the imperial subjects, how to extirpate them, and I thought it necessary, as they contain much good and useful matter, to insert them.” Then he proceeds with *Beschreibung Deren Anno 1747, &c. &c.* or a description of the Locust, as given in the Imperial Edict, &c. In the course of which, and the description in page 145, we are informed, that this Locust lives three years. The female deposits her eggs in a kind of bag; the eggs are about a quarter of an inch in length: of a slender oblong form, and placed within the bag lengthwise, so as to form four or five tiers. It is most advised to dig for them in this state, and burn them; or if they should alight in the winged state, as it is known that the noise of bells, &c. will allure them to any particular spot, it is recommended to form deep ditches, and decoy, drive, or beat them into the water in multitudes.

* Under the section *Der Heuschrecken und Grillensammlung*, &c. &c. Vol. II. p. 103.

† Referring to his plate 24, of *LOCUSTA GERMANICA* and description of the Insects annexed.



P L A T E CCLXXI.

PAPILIO HYPERANTHUS.

RINGLET BUTTERFLY.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, brown. Beneath, three eyes or rings on the anterior, and five on the posterior wings.

PAPILIO HYPERANTHUS: alis integerrimis fuscis subtus anticis ocellis tribus, posticis duobus tribusque. *Linn. Syst. Nat.* 2. 768. 127.—*Fn. Sv.* 1043.—*Fab. Ent. Syst.* T. 3. p. 1. p. 216. *sp.* 677.
Degeer. Inf. 2. tab. 2. fig. 9. 10.
Schæff. Icon. tab. 127. fig. 1, 2.
Esp. Pap. 1. tab. 5. fig. 1.
Naturf. 8. tab. 3. fig. D.

The larva of this Butterfly is very rarely met with; it feeds on the roots of grass; is hairy, of an ash colour, with a black line down the side, and the tail forked. The pupa is gibbous, brown, and spotted with yellow.

Papilio

Papilio Hyperanthus is found in the winged state in June and July. It frequents lanes, and hedges on dry and elevated banks, such as are common in the sandy and chalky soils of Kent.



P L A T E CCLXXII.

P H A L Æ N A F U R C U L A.

KITTEN MOTH.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

BOMBYX.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Thorax variegated. Anterior wings grey, sprinkled with black : base and apex white, with black spots. Posterior wings white, with a marginal row of black points.

P H A L Æ N A F U R C U L A : thorace variegato, alis griseis basi apiceque albis nigro punctatis. *Linn. Syst. Nat.* 2. 823. 51.—
Fn. Sv. 1122.—*Fab. Ent. Syst. T.* 3. p. 1. 475. *fp.* 213.
Panz. Faun. Inf. Germ. 4. tab. 20.
Wilks. pap. 13. tab. 1. fig. 1.
Sepp. Inf. 4. 29. tab. 6.

Phalæna Furcula is a neat and interesting British Insect. Except in size it is very similar to Phalæna Vinula ; and the Aurelians, from this similarity, and a fanciful reference to the brindled appearance
of

of the anterior wings, have whimsically, but not inaptly, given their English trivial names: *Phalæna Vinula*, being the largest, is called the Puff Moth; and *Phalæna Furcula*, the Kitten. The last is rare: *Phalæna Vinula* very common.

The larva is found on the willow in July. It remains in the pupa state the whole winter: the Moth comes forth in May.



P L A T E CCLXXIII.

CHRYSOMELA NITIDULA.

GENERIC CHARACTER.

Antennæ composed of globular articulations, which encrease in bulk towards the end. Thorax and elytro without margin.

SPECIFIC CHARACTER

AND

SYNONYMS.

Feet formed for leaping. Wing's cases shining green. Head and thorax, crimson, resplendent with gold. Legs ferruginous.

CHRYSOMELA NITIDULA: saltatoria, elytris cœruleis, capite thoraceque aureo. *Faun. Succ.* 542.

GALLERUCA NITIDULA, saltatoria viridis nitens, capite thoraceque aureis, pedibus ferrugineis. *Fab. Ent. Syst.* 1. 30. *sp.* 81.

This beautiful little species is sometimes found on the willow and alder. The smallest figure denotes the natural size.

Found on Willow and Alder



P L A T E CCLXXIV.

F I G. I. II.

P H A L Æ N A H U M U L I.

G H O S T M O T H.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Female yellow, with fulvous marks. Male snowy white.

P H A L Æ N A H U M U L I: alis flavis fulvo striatis maris niveis. *Linn.*

Syst. Nat. 2. 833. 84.—*Fn. Sv.* 1147.

H E P I A L U S H U M U L I: *Fab. Ent. Syst. T.* 3. p. 2. 5. *sp.* 1.

Degeer. Inf. 1. tab. 7. fig. 5, 6.

Sulz. Hist. Inf. tab. 22. fig. 1.

The male and female of *Phalæna Humuli* are very dissimilar, and may easily be mistaken for distinct species. The male is perfectly white, with a gloss like satin, the abdomen, antennæ, and margin of the wings excepted, for these are reddish brown. The female is of a fine yellow colour, with several fulvous or orange marks; and is somewhat larger than the other sex.

The larva lives in the earth, at the roots of the Burdock and hop. It is of a very pale or whitish colour, with a brown head, and sixteen feet,

F I G.

F I G. III.

P H A L Æ N A H E C T A.

GOLDEN SWIFT MOTH.

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings deflexed. Yellow brown. Two oblique, whitish, or yellow bands, consisting of interrupted and irregular spots, across the anterior wings.

P H A L Æ N A H E C T A : lutea, alis deflexis: primoribus fasciis duabus albidis obliquis punctatæ interruptis. *Fn. Sv.* 1148.—
Gmel. Linn. Syst. Nat. Ent. p. 2617. *sp.* 85.

H E P I A L U S H E C T U S. *Fab. Ent. Syst. T.* 3. *p.* 2. *p.* 6. *Sp.* 4.
Degeer. Inf. 1. *tab.* 7. *fig.* 11.

This species is common in the skirts of woods in May and June. The colours in the male Insect are more vivid than the female, and the spots on the anterior wings in particular are of such a beautiful yellow, that English collectors have termed this kind the Golden Swift Moth.

It commences its flight earlier in the evening than any other of the nocturnal lepidopterous insects. Its manner of flying is very singular, and attracted the notice of Linnæus, who aptly compares it to the motion of the pendulum of a clock.

The larva is unknown: it is supposed to feed on the roots of plants under ground.



P L A T E CCLXXV.

P H A L Æ N A A L N I A R I A.

G E N E R I C C H A R A C T E R.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

A N D

S Y N O N Y M S.

Antennæ feathered. Wings yellow, speckled with brown, and marked with two transverse streaks. Margins deeply indented.

P H A L Æ N A A L N I A R I A : pectinicornis alis erosis flavis fusco pulverulentis: strigis duabus fuscis. *Linn. Syst. Nat.* 2. 860. 205.—*Fn. Sv.* 1230. *Fab. Ent. Syst. T.* 3. p. 2. p. 136. *Sp.* 24. *Schæff. Icon. tab.* 135. fig. 1, 2.

This Insect is analogous to several other species of British Phalænæ, known amongst collectors by the indefinite term, Thorn Moths. It is remarkable only in the larva state, when, from its similarity in form and colour to a twig of the tree on which it feeds, it is supposed to escape the notice of its enemies. It is a dull creature, and will often remain in an oblique, or erect position, without motion, or appearance of life, for several hours together.

It is found on fruit-trees, in the state of larva, in May: the Moth appears in August or September.



P L A T E CCLXXVI.

CHRYSOMELA TENEBRICOSA.

GENERIC CHARACTER.

Antennæ composed of globular articulations, which encrease in bulk towards the end. Thorax and elytra without margin.

SPECIFIC CHARACTER

AND

SYNONYMS.

No wings. Somewhat oval. Thorax lunated. Black, glossed with blue, or purple.

CHRYSOMELA TENEBRICOSA: aptera ovata, atra antennis pedibusque violaceis. *Fab. Ent. Syst.* 1. 308. 3.

TENEBRIO LÆVIGATUS, apterus niger lævis, elytris lævibus thorace lunato, subtus cœruleis. *Linn. Syst. Nat.* 678. 29.

Chrysomela Tenebrioides. *Gmel. Linn. Syst. Nat.* 1667. 1.

This Creature is entirely of a black colour, glossed, in some specimens, with shining blue; in others, with purple. Those colours are particularly vivid on the legs and underside of the Insect. It is very common during most part of the summer.

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P L A T E CCLXXVII.

F I G. I.

PHRYGANEA VARIA?

NEUROPTERA.

GENERIC CHARACTER.

Mouth furnished with four palpi. Stemmata three. Antennæ longer than the thorax. First wings incumbent. Second wings folded.

SPECIFIC CHARACTER.

Wings greyish brown, variegated with black, and spotted in the middle with white.

PHRYGANEA VARIA: alis cinereo, nigroque variis: puncto medio distincto niveo, antennis nigris. *Fab. Ent. Syst. T. 2. p. 77, 103.*

The *Phryganea Varia* of Fabricius has not been figured by any author; but is, we suspect, no other than a small variety of *P. Grandis*, and which Linnæus describes as “*alis cinereo testaceis, lineolis duabus longitudinalibus nigris, puncto albo.*” Fabricius has altered this definition to “*alis testaceis cinereo maculatis,*” in the *Entomologia Systematica*, and erroneously attributes the latter to Linnæus.

We cannot avoid, in support of our opinion, noticing the striking dissimilarity between the several figures of *Phryganea Grandis*, in our copies of the works quoted by Linnæus and Fabricius. *Roefel* has two figures, one of a bluish grey, the other

H

yellowish

yellowish brown ; both vary in the markings, and are nearly twice the size of our specimen. In *Sulzer*, the wings are shorter and more pointed than in the preceding work ; and are rather pellucid and tinged with yellow : the markings totally different from those in *Roefel*. Those in *Schaffer* are most like one of our specimens in form and reddish colour, but still with markings as different from it as from either of the preceding figures. We may hence conclude the marks are inconstant, and the colours extremely variable ; and that in point of size, the present species may be the *Varia* of Fabricius, since he notices its affinity to the *P. Grandis* ; and adds, it is rather smaller.—“ *Nimis Affinis P. Grandis at paullo minor.*” *Fab. Ent. Syst.*

F I G. II.

HEMEROBIUS PERLA.

GOLDEN EYE.

GENERIC CHARACTER.

Mouth armed with two teeth and four palpi. Wings deflected. Antennæ setaceous, and longer than the thorax.

SPECIFIC CHARACTER.

Yellowish green. Wings transparent. Eyes golden.

HEMEROBIUS PERLA: luteo viridis alis hyalinis: vasis viridibus.
Linn. Syst. Nat. 2. 911. 2. Fn. Sv. 1504.

Extremely common in summer. It is a very delicate little creature, greenish, the wings reticulated, perfectly transparent, with various beautiful, pearly, reddish, greenish, and yellowish glosses. The eye is large, globular, and has the appearance of gold, whence its English trivial name. Stink much before a thunder-storm.



P L A T E CCLXXVIII.

PAPILIO POLYCHLOROS.

WOOD TORTOISESHELL BUTTERFLY.

GENERIC CHARACTER.

Antennæ clubbed at the ends. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings angulated, brownish orange, spotted with black.

PAPILIO POLYCHLOROS: alis angulatis fulvis nigro maculatis: anticis supra punctis quatuor nigris. *Linn. Syst. Nat.* 2. 777. 166.—*Fn. Sv.* 1057.—*Fab. Syst. Ent. t.* 3. p. 1. 121. *sp.* 372.
Merian Europ. tab. 1.
Roes. Inf. 1. *pap.* 1. *tab.* 2.
Schæff. Icon. tab. 146. *fig.* 1, 2.
Ammir. tab. 15.
Frisch. Inf. 6. *tab.* 3.
Wilks. pap. 56. *tab.* 3. *a.* 5.

There is a striking similarity in form and colour between this species and *Papilio Urticæ*, already figured in this work. Collectors have hence denominated the two species the Tortoiseshell Butterflies ;

Butterflies; they differ, however, materially in size, as well as manner of life. The smallest kind is very common, and its larva feeds on the Nettle; the present species is found on the Elm, frequents woods, and is very scarce.

The larva is found in June; it becomes a pupa in the same month; and after remaining in that state twenty-one days, the winged Insect is produced.

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PLATE CCLXXIX.

PAPILIO MEGAERA.

LEPIDOPTERA.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings in general deflexed when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings dentated yellowish brown, with dark marks across. One eye on the anterior pair: Five on the posterior pair above, and six beneath.

PAPILIO MEGAERA: alis dentatis luteis fusco fasciatis: anticis ocello, posticis supraquinis, subtus sex. *Linn. Syst. Nat.* 2. 771. 142.—*Fab. Ent. Syst. T.* 3. p. 1. p. 94, 292.—*Schæff, Icon. tab.* 148. fig. 3, 4.

This Butterfly is common in meadows in July. The larva is green, hairy, with a bifid tail; it feeds on grass, and changes to the pupa state in June.



P L A T E CCLXXX.

F I G. I.

PAPILIO NAPI.

GREEN-VEINED WHITE BUTTERFLY.

GENERIC CHARACTER.

Antennæ clubbed at the end. Wings erect when at rest. Fly by day.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire, white. Beneath, veined with green.

PAPILIO NAPI: alis integerrimis albis: subtus venis dilatis viref-
centibus. *Linn. Syst. Nat.* 2. 760. 77.—*Fn. Sv.* 1037.
—*Fab. Ent. Syst. T.* 3. p. 1. 187. 576.
Geoff. Inf. 2. 70. 42.
Merian Europ. 2. tab. 39.
Albin Inf. tab. 52. fig. F. G.

Frequent in gardens in May. The larva feeds on the cabbage.

F I G. II.

PAPILIO SINAPIS.

WOOD LADY, or WOOD WHITE BUTTERFLY,

SPECIFIC CHARACTER,

AND

SYNONYMS.

Wings rounded, entire, white. Apex brown.

PAPILIO NAPI: alis rotundatis integerrimis albis: apicibus fuscis.

Linn. Syst. Nat. 2. 760. 79.—*Fn. Sv.* 1038.—*Fab.**Ent. Syst. T.* 3. p. 1. p. 187. *fp.* 577.*Schæff. Icon. tab.* 97. *fig.* 8, 9, 10, 11.*Degeer. Inf.* 2. 183. 4. *tab.* 1. *fig.* 1.*Raj. Inf.* 116. 8.

Found in woods in May; a second brood appears in August.



P L A T E CCLXXXI.

P H A L Æ N A F A G A N A.

COMMON SILVER-LINE MOTH.

G E N E R I C C H A R A C T E R.

Antennæ, taper from the base. Wings in general deflexed, when at rest. Fly by night.

S P E C I F I C C H A R A C T E R

AND

S Y N O N Y M S.

Anterior wings green, with three oblique white, or silvery stripes across each. Antennæ and feet fulvous.

PYRALIS FAGANA: alis viridibus: strigis tribus obliquis albis, antennis pedibusque fulvis. *Fab. Ent. Syst.* 3. p. 2. 243. 5.

Phalæna Fagana. *Wien. Verz.* 125. 2.

Roef. Inf. 4. tab. 22.

Petiv. Gazoph. tab. 7. fig. 11.

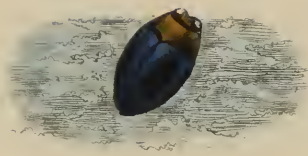
Ammiral Inf. tab. 2. fig. 1.

Alb. Inf. tab. 31.

Wilks. pap. 1. tab. 1. a. 13.

The *Phalæna Fagana* is not one of the rarer British species; it claims attention for its singular and beautiful appearance only. The larva is found on the oak in August and September: in the beginning

beginning of October, it spins a very extraordinary kind of covering on a leaf of the oak, and becomes a pupa within. This covering somewhat resembles a tent, or rather an inverted boat, being shuttle formed, and having a keel, or longitudinal ridge along the upper part: its colour is yellowish brown; the pupa underneath is purple. The Moth appears in the winged state in May



P L A T E CCLXXXII.

BUPRESTIS PYGMEA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ fetaceous, length of the thorax. Head half retracted, or drawn within the thorax.

SPECIFIC CHARACTER

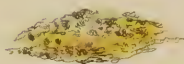
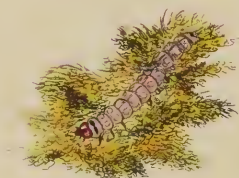
AND

SYNONYMS.

Wing cases blue. Head and thorax brown, bronzed.

BUPRESTIS PYGMEA: elytris integris cyaneis, capite thoraceque æneis nitidis. *Fab. Ent. Syst.* 1. p. 2. p. 211. *Sp.* 110.

The discovery of this minute but rare species of Buprestis in this country, is due to Alexander M^cLeay, Esq.—It was found in a puddle, on the road side, near Coombe Wood, in the month of May last. The specimen is represented in the annexed plate; the smallest figure denotes the natural size.



P L A T E CCLXXXIII.

PHALÆNA MELLONELLA.

HONEY MOTH.

GENERIC CHARACTER.

Antennæ taper towards the base. Wings in general deflexed when at rest. Fly by night.

TINEA.

SPECIFIC CHARACTER

AND

SYNONYMS.

Anterior wings grey: posterior part purple. Scutellum black, white at the tip.

P. TINEA MELLONELLA: alis canis posticis purpurascens: striga alba, scutello nigro apice candido. *Linn. Syst. Nat.* 2. 888. 375.—*Fn. Sv.* 1383.—*Fab. Ent. Syst.* 3. p. 2. 305. *Sp.* 79.
Reaum. Inf. 3. tab. 19. fig. 79.

The larva of this species is sometimes found in bee-hives; it insinuates itself amongst the cells of those Insects, and subsists on the honey. It remains in the pupa state in a long cylindrical channel or passage it forms in the larva state: the winged Insect comes forth in August.



P L A T E CCLXXXIV.

SPHINX LIGUSTRI.

PRIVET SPHINX, or HAWK MOTH.

GENERIC CHARACTER.

Antennæ thickest in the middle. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER

AND

SYNONYMS.

Wings entire. Posterior pair red, with three black bars across. Abdomen red, with black belts.

SPHINX LIGUSTRI: alis integris posticis rufis; fasciis tribus nigris, abdomine rubro: cingulis nigris. *Linn. Syst. Nat.* 2. 799. 8. *Fn. Sv.* 1087.

Sphinx Ligustri: *Fab. Ent. Syst. T.* 3. p. 1. 374. 55.

Roef. Inf. 3. tab. 5.

Degeer. Inf. 1. tab. 1. fig. 6.

Schæff. Elen. tab. 116. fig. 2.

Albin. Inf. tab. 7. fig. 10.

Efp. Inf. 2. tab. 6.

Reaum. Inf. 2. tab. 20, fig. 1—4.

The larva of this beautiful species is found very frequently on the Privet in the months of July and August. It buries itself in the earth preparatory to its becoming a pupa, and comes forth in the fly state in June following.

P L A T E



1



P L A T E CCLXXXV.

CASSIDA MACULATA.

COLEOPTERA.

GENERIC CHARACTER.

Antennæ nearly filiform, but encreasing in bulk towards the extremity. Margin of the elytra broad. Head concealed under the thorax.

SPECIFIC CHARACTER

AND

SYNONYMS.

Greenish, variegated with spots of black on the elytra, particularly along the future of the back.

CASSIDA MACULATA: viridibus elytris rarius, futura dorsali confertius nigro maculatis. *Linn. Syst. Nat.* 2. 575. 6.
Fab. Syst. Ent. 88. 2.

Cassida viridis maculis nigris variegata. *Geoff. Inf.* 1. 314. 5. tab. 5. fig. 6.

Has been supposed only a variety of *Cassida viridis*, but is evidently a distinct species, and is very uncommon in England.

Fig. 1. The natural size.



P L A T E CCLXXXVI.

F I G I.

CHRY SOMELA MARSHAMI.

G E N E R I C C H A R A C T E R.

Antennæ articulated, larger towards the end. Thorax and elytra without margin.

S P E C I F I C C H A R A C T E R.

Thorax greenish gold. Wing-cases coppery, irregularly punctated.

CHRY SOMELA MARSHAMI: thorace viridi æneo, elytris cupreis vagè punctatis.

As the British Coleoptera are in few instances remarkable for that splendid glow and gaiety of colours which distinguish those of warmer climates, we are more inclined to admire the beauty of this recently discovered species of Chrysomela. It appears not to have been noticed by any preceding author; and as it remains with us to designate some specific appellation, we have named it *Marshami*, in compliment to that eminent entomologist T. Marsham, Esq.—a name, perhaps, the more appropriate, as it is known among that gentleman's scientific friends the world will soon be favoured with his invaluable papers on British Coleoptera.

This Insect is nearly allied to *C. Fastuosa* and *C. Hypericum*.—Found in Norwood last May.

F I G.

F I G. II.

CHRY SOM E L A G O E T T I N G E N S I S.

S P E C I F I C C H A R A C T E R.

Oval black, glossed with purple. Legs purple. Tarsi reddish.

CHRY SOM E L A G O E T T I N G E N S I S: ovata atra pedibus violaceis:
plantis rufis. *Linn. Syst. Nat.* 2. 586. 4.—*Fn. Sv.* 506.
Fab. Ent. Syst. T. 1. p. 309.
Degeer. Inf. 5. 298. 8.

A rare species in this country; very common in Germany.



PLATE CCLXXXVII.

FIG. I.

PHALÆNA PAPILIONARIA.

LARGE EMERALD MOTH.

GENERIC CHARACTER.

Antennæ taper from the base. Wings in general deflexed when at rest. Fly by night.

SPECIFIC CHARACTER.

Antennæ feathered. Wings green: a continued streak of whitish semicircular marks across the middle of each, and an interrupted or half streak of the same colour below it.

PHALÆNA PAPILIONARIA: pectinicornis alis subrepandis viridibus: striga sesquialtera repanda. *Linn. Syst. Nat.* 2. 864. 225.—*Fn. Sv.* 1247.
Wien. Verz. 96. 1.
Roef. Inf. 4. tab. 18. fig. 3.

A rare and very elegant British species. The larva is green, with about ten incurvated spines or hooks along the back. It is found in this state on the Birch and Alder in June, changes to the pupa the latter end of the same month, and appears on the wing fourteen days after.

The pupa is green variegated with yellow.

K

FIG.

F I G. II.

P H A L Æ N A P E N N A R I A.

SPECIFIC CHARACTER.

Antennæ feathered; Wings indented reddish: two dark streaks across the anterior pair, and a distinct white spot near the apex.

P H A L Æ N A P E N N A R I A : pectinicornis alis subdentatis rufescentibus: strigis duabus fuscis punctoque apicis albo.

Linn. Syst. Nat. 2. 861. 209.—*Fab. Ent. Syst.* 3. p. 2. 132. 14.

The larva smooth reddish brown; found on Fruit-trees.

F I G. III.

P H A L Æ N A B I L I N E A T A.

SPECIFIC CHARACTER.

Antennæ setaceous, Wings yellow undulated with brown streaks, and a broad wave across the anterior pair.

P H A L Æ N A B I L I N E A T A : seticornis alis luteis testaceo undatis: fascia repanda, margine fusco. *Linn. Syst. Nat.* 2. 868.

245.—*Fn. Sv.* 1284.

Clerk. Icon. tab. 6. fig. 13.

Very abundant in White-thorn hedges during most part of the Summer.

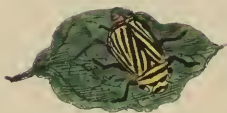
P L A T E



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2

P L A T E CCLXXXVIII.

F I G. I. I.

CICADA NITIDULA.

GENERIC CHARACTER.

Rostrum bent inwards. Antennæ setaceous. Wings membranaceous declining along the sides of the body.

SPECIFIC CHARACTER.

Yellow. Wing-cases transparent, whitish, with two dark transverse bars.

CICADA NITIDULA: flava, elytris hyalino albis, faciis duabus nigris. *Fab. Ent. Syst.* 4. p. 46. n. 87.

This minute species is represented in the natural size at Fig. I. The upper figure exhibits its magnified appearance.

F I G.

F I G. II.

CICADA FLAVOSTRIATA.

SPECIFIC CHARACTER.

Black. Head and Thorax transversely streaked with yellow; streaks on the wing-cases of the same colour, disposed longitudinally.

CICADA FLAVOSTRIATA: nigra, capite thoraceque transverse elytrisq̃ue longitudinaliter flavo-striatis.

This Insect has been confounded with the Cicada striata of *Linnaeus*, *Faun. Suec.* 887. and *Syst. Nat.* 709. n. 30. in general; but it is certainly not that species. *Linnaeus* refers to *Geoff.* 1. p. 424. n. 20. for *C. striata*, wherein it is thus described; "Head pale green, with two black points in front, and four near the base; Thorax of the same colour, marked with several less distinct black spots also." We therefore consider our *C. flavostriata* as a new species.

L I N N Æ A N I N D E X

T O

V O L VIII.

COLEOPTERA.

				Plate	Fig.
Scarabæus nutans	-	-	-	255.	1.
———— nuchicornis	-	-	-	255.	2.
———— Stercorarius, Common Dor	-	-	-	264.	3.
———— Melolontha, Tree-beetle, or Cock-chaffer	-	-	-	264.	2.
Lucanus Parallelipipedus, Small Black Stag-beetle	-	-	-	264.	1.
Cassida maculata	-	-	-	285.	
Chrysomela nitidula	-	-	-	273.	
———— tenebricosa	-	-	-	276.	
———— Marshami	-	-	-	286.	1.
———— Goettingensis	-	-	-	286.	2.
Buprestis Minuta	-	-	-	256.	
———— pygmea	-	-	-	282.	

HEMIPTERA.

Gryllus Migratorius, Migratory Locust	-	-	270.	
Cicada nitidula	-	-	288.	1.
———— flavofriata	-	-	288.	2.

L

LEPI-

I N D E X.

LEPIDOPTERA.

	Plate	Fig.
Papilio Napi, Green Veined White Butterfly	280.	1.
—— Sinapis, Wood-Lady Butterfly - -	280.	2.
—— Megaera - - - -	279.	
—— Galathea, Marbled Butterfly - -	258.	
—— Semele, Black-eyed Marbled Butterfly -	259.	
—— Hyperanthus, Ringlet Butterfly -	271.	
—— Polychloros, Wood Tortoiseshell Butterfly	278.	
—— Atalanta, Red admirable Butterfly -	260.	
—— Paniscus - - - -	254.	1. 1.
—— Sylvanus - - - -	254.	2.
Sphinx Ligustri, Privet Moth - - -	284.	
—— Ocellata, Eyed Hawk Moth - -	269.	
Phalæna Pavonia fem. Female Emperor Moth	253.	
—— Furcula, Kitten Moth - -	272.	
—— Humuli, Ghost Moth - -	274.	1. 2.
—— Heceta, Golden Swift Moth - -	274.	3.
—— Verbasci, Water Betony Moth - -	257.	
—— Atriplicis, Wild Arrach Moth - -	262.	1. 1.
—— Umbratica, Shark Moth - -	262.	2. 2.
—— Jota, Golden i Moth - -	265.	1.
—— Gamma, Golden γ Moth - -	265.	2.
—— Alniaria, - - - -	275.	
—— Papilionaria, Emerald Moth - -	287.	1.
—— Pennaria - - - -	287.	2.
—— Bilineata - - - -	287.	3.
—— Lemnata, Small White China Mark Moth	266.	1. 2.
—— Decussata, Pretty Widow Moth -	266.	3.
—— Atralis - - - -	266.	4.
—— Fagana, Common Silver Line - -	281.	
—— Melonella, Honey Moth - -	283.	
—— Pinetella, Pearl Veneer Moth - -	263.	1.
—— Colonella - - - -	263.	2.
—— Degeerella, Long Horn Japanned Moth	267.	1. 2.
—— Podælla, Scarce Japanned Moth -	267.	3. 3.

NEUROPTERA.

I N D E X.

NEUROPTERA.

				Plate	Fig.
Phryganea varia	-	-	-	277.	1.
Hemerobius perla	-	-	-	277.	2.

Hippobosca Equina	-	-	-	261.	1.
----- avicularia	-	-	-	261.	2.
----- hirundinis	-	-	-	268.	1.
----- ovina	-	-	-	268.	2.

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colonella, Phalæna - - -	- 263.	2.
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Degeerella, Phalæna, Long Horned Japanned Moth	267.	1. 2.
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Galathea, Papilio, Marbled Butterfly	- 258.	
Gamma, Phalæna, Golden γ Moth	- 265.	2.
Goettingensis, Chrysomela - - -	- 286.	2.
hecta Phalæna, Golden Swift Moth	- 274.	3.
hirundinis, Hippobosca - - -	- 268.	1.
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Hyperanthus, Papilio, Ringlet Butterfly	- 271.	
Jota, Phalæna, Golden i Moth	- 265.	1.
Lemnata, Phalæna, Small White China Mark Moth	266.	1. 2.
Ligustri, Sphinx, Privet Moth - - -	- 284.	
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Marsham,

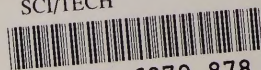
I N D E X.

	Plate	Fig.
Marthami, Chrysomela - - -	286.	1.
Megaera, Papilio - - -	279.	
Melolontha, Scarabæus, Tree-beetle, or Cock-chaffer	264.	
Melonella, Phalæna, Honey Moth - -	283.	
Migratorius, Gryllus, Migratory Locust -	270.	
Minuta, Buprestis - - -	256.	
Napi, Papilio, Green Veined White Butterfly -	280.	1.
nitidula, Chrysomela - - -	273.	
nitidula, Cicada - - -	288.	1.
nuchicornis, Scarabæus - - -	255.	2.
nutans, Scarabæus - - -	255.	1.
Ocellata, Sphinx, Eyed Hawk Moth - -	269.	
Ovina, Hippobosca - - -	268.	2.
Paniscus, Papilio - - -	254.	1. 1.
Pavonia, Phalæna - - -	253.	
Papilionaria, Phalæna, Emerald Moth -	287.	1.
parallelipipedus, Small Black Stag Beetle	264.	1.
perla, Hemerobius - - -	277.	2.
Pennaria, Phalæna - - -	287.	2.
pinetella, Phalæna, Pearl Veneer Moth -	263.	1.
Podælla, Phalæna, Scarce Japanned Moth -	267.	3.
Polychloros, Papilio, Wood Tortoiseshell Butterfly	278.	
Pygmea, Buprestis - - -	282.	
Semele, Papilio, Black Eyed Marble Butterfly	259.	
Sinapis, Papilio, Wood Lady Butterfly -	280.	2.
Stercorarius, Scarabæus, Common Dor -	264.	3.
Sylvanus, Papilio - - -	254.	2.
tenebricosa, Chrysomela - - -	276.	
varia, Phryganea - - -	277.	1.
Verbasci, Phalæna, Water Betony Moth -	257.	
Umbratica, Phalæna, Shark Moth - -	262.	2. 2.

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